

04/09/14     Agenda

- Polynomials - day 13
  - Factoring Trinomials where  $A \neq 1$ 
    - $A = -1$
    - $A > 1$

Homework

- Worksheet 8 - Factoring ( $a \neq 1$ )

## Warm Up



Put your name on a slip of paper.

Factor these equations:

$$x^2 - x - 2 = (x + 1)(x - 2)$$

$a=1$   
 $b=-1$   
 $c=-2$

FACTORS OF -2	THAT SUM TO -1
-1, 2	$= +1$
1, -2	$= -1$

$$x^2 - 2x - 24 = (x + 4)(x - 6)$$

$a=1$   
 $b=-2$   
 $c=-24$

FACTORS OF -24	THAT ADD TO -2
-3, +8	$= +5$
3, -8	$= -5$
4, -6	$= -2$

1.)  $a^2 - 14a + 45$

$$\begin{array}{r|l} 45 & \\ -1 & -45 \\ \hline -5 & -9 \end{array} = -14 \quad -14$$

$$(a-5)(a-9)$$

2.)  $n^2 + 7n - 18$

$$\begin{array}{r|l} -18 & \\ -1 & 18 \\ \hline -2 & 9 \end{array} = 7 \quad +7$$

$$\begin{array}{r|l} 2 & -9 \\ \hline & -7 \end{array}$$

$$(n-2)(n+9)$$

$$3.) -x^2 + x + 2 = -1(x^2 - x - 2)$$

$$a = -1 \quad x^2 - x - 2 \quad (-1)(x+1)(x-2)$$

$$b = 1 \quad = (x+1)(x-2)$$

$$c = 2$$

$$4.) -v^2 + 2v + 24 = -1(v^2 - 2v - 24)$$

$$(v^2 - 2v - 24)$$

$$(-1)(v+4)(v-6)$$

$$a = 1$$

$$b = -2$$

$$c = -24$$

$1 \cdot -24$	$-24$	$-2$
$ac$		
FACTORS OF $-24$		THAT ADD TO $-2$
$ONE +$	$ONE -$	
$+4, -6$		$= -2$

$$(-1)(v+4)(v-6)$$

$$5.) \quad -r^2 + 7r + 30 = (-1)(r+3)(r-10)$$

$$6.) \quad -x^2 - 13x - 36$$

$$7.) \quad \underline{3}p^2 \underline{-7}p \underline{-6}$$

$$a = 3 \quad a \cdot c = -18$$

$$b = -7 \quad \begin{array}{|l} \text{FACTORS} \\ \text{OF } -18 \end{array} \quad \begin{array}{|l} \text{THAT ADD} \\ \text{TO } -7 \end{array}$$

$$c = -6 \quad \begin{array}{|l} -2, 9 \\ \underline{2, -9} \end{array} \quad \begin{array}{|l} = 7 \\ = -7 \end{array}$$

$$7.) \quad 3p^2 \underline{-7}p - 6$$

$$3p^2 + \underline{2}p - \underline{9}p - 6$$

$$(3p+2)(p-3) \quad -3$$

$$\begin{array}{c} 3p+2 \\ \begin{array}{|c|c|} \hline 3p^2 & +2p \\ \hline -9p & -6 \\ \hline \end{array} \end{array}$$

8.)  $2x^2 - 7x + 5$

$a$  2  
 $b$  -7  
 $c$  5

FACTORS OF 10	SUM TO -7
1, 10	11
2, 5	7
-2, -5	-7

$2x^2 - 2x - 5x + 5$

	$x$	$-1$
$2x$	$2x^2$	$-2x$
$-5$	$-5x$	$+5$

$(2x - 5)(x - 1)$

9.)  $3m^2 - 16m + 5$

10.)  $5x^2 + 11x + 2$   $(5x+1)(x+2)$

$a = 5$   
 $b = 11$   
 $c = 2$

$ac = 10$   
 FACTORS OF 10  
 1, 10

THAT ADD TO 11  
 $5x^2 + 1x + 10x + 2$

$(5x+1)(x+2)$

	$5x + 1$
$x$	$5x^2 + 1x$
$+2$	$+10x + 2$

$(5x^2 + 1x) + (10x + 2)$

$[x(5x+1) + 2(5x+1)]$

$(x+2)(5x+1)$